AMENDMENTS TO THE CLAIMS

Claims 1-14 (Canceled) Please cancel claims 1-14 without prejudice to the possibility of filing one or more continuing applications directed to the subject matter recited therein

15. (Currently Amended) A method for visually displaying results of a feature extraction process carried out on data collected from a molecular array, the method comprising:

displaying an image of a molecular array; and

superimposing distinct graphical objects representing at least two different characteristics of the data on the molecular array over positions where the data characteristics represented occur ~~of features~~ on the displayed image of the molecular array~~, a displayed graphical object representing a result of the feature extraction process for the feature over which the displayed graphical object is superimposed on the displayed image of the molecular array~~.

16. (Original) The method of claim 15 further including:

upon receiving an input indication of a feature, displaying a tool tip including an alphanumeric representation of information related to the feature, including results from the feature extraction process.

17. (Original) The method of claim 16 wherein the input indication is positioning of a graphical pointer over the position of the feature in the displayed image of the molecular array.

18. (Original) The method of claim 15 further including:

upon receiving an option selection indication, displaying graphical objects superimposed only over statistical outlier features and feature backgrounds.

19. (Currently Amended) The method of claim 15 wherein displayed, distinct graphical objects include:

a first type of indication indicating a statistically valid feature;

a second type of indication indicating a statistically invalid feature;

a third type of indication indicating a statistically valid feature background;

a fourth type of indication indicating a statistically invalid feature background; and

a fifth type of indication indicating the position of a feature in the displayed image of the molecular array.

20. (Original) The method of claim 19 wherein the first, second, third, and fourth types of indications are planar figures selected from among closed planar figures that include:

circles;

squares;

polygons;

ellipses;

rectangles; and

irregular shaped closed figures.

21. (Original) The method of claim 19 wherein the fifth type of indication is a positioning figure selected from among positioning figures including:

crosses;

points; and

arrows.

22. (Original) The method of claim 19 wherein the first and third types of indications that indicate a statistically valid feature and a statistically valid feature background, respectively, have a common color distinct from the colors of the second, fourth, and fifth types of features.

23. (Original) The method of claim 19 wherein the second and fourth types of indications that indicate a statistically invalid feature and a statistically invalid feature background, respectively, have a common color distinct from the colors of the first, second, and fifth types of features.

24. (Original) A method comprising reading a sample exposed array, visually displaying results using a method according to claim 15, and further processing the results from reading based on the visually displayed results.

25. (Original) A method comprising forwarding data representing a result obtained by the

method of claim 24.

26. (Original) A method according to claim 25 wherein the data is communicated to a remote location.

27. (New) A graphical user interface that displays results of a feature extraction process carried out on data collected from a molecular array, the graphical user interface comprising:

a molecular array image display component that displays an image of the molecular array; and

a feature-extraction-results rendering component that displays feature extraction results as graphical objects superimposed on the displayed image of the molecular array, the graphical objects including distinct graphical objects representing at least two distinct characteristics of the data determined by said feature extraction results.

28. (New) The graphical user interface of claim 27, wherein said distinct graphical objects include distinct graphical objects to represent at least two of: a position of a feature within the image of the molecular array, a statistically valid feature, a statistically invalid feature, an outlier feature, a statistically valid background region around a feature, and an outlier background region.

29. (New) The graphical user interface of claim 28, wherein said distinct graphical object representing a position of a feature within the image of the molecular array comprises a distinct graphical object representing a center of a feature.

30. (New) The graphical user interface of claim 28, wherein said distinct graphical object representing a position of a feature within the image of the molecular array includes at least one of a distinct graphical object representing a center of a feature found by analyzing pixel intensities within and near the feature, and a distinct graphical object representing a center of a feature determined based on row and column indices of the feature and on a refined feature grid determined from locations of strong features identified.

31. (New) The graphical user interface of claim 28, wherein said distinct graphical object representing an outlier feature includes at least one of a distinct graphical object representing an outlier

feature due to non-uniformity of pixel intensities within the feature, a distinct graphical object representing an outlier feature due to statistical variance in signal intensity from other features on the molecular array, and a distinct graphical object representing an outlier due to both non-uniformity of pixel intensities within the feature and statistical variance in signal intensity from other features on the molecular array.

32. (New) The graphical user interface of claim 28, wherein said distinct graphical object representing an outlier background region includes at least one of a distinct graphical object representing an outlier background region due to non-uniformity of pixel intensity within the background region, a distinct graphical object representing an outlier background region due to statistical variation in signal intensity of the background region from signal intensity of background regions surrounding other features in the molecular array, and a distinct graphical object representing an outlier background region due to both non-uniformity of pixel intensity within the background region and statistical variation in signal intensity of the background region from signal intensity of background regions surrounding other features in the molecular array.

33. (New) The graphical user interface of claim 28, further comprising a user-selectable feature for directing said feature-extraction-results rendering component to display said feature extraction results as graphical objects superimposed on the displayed image of the molecular array only for outlier features and features surrounded by outlier background regions.

34. (New) The graphical user interface of claim 27, wherein the graphical user interface displays numerical, textual, or numerical and textual information specific to a feature in a tool tip in response to input identifying a particular feature.

35. (New) The graphical user interface of claim 34, wherein the input constitutes positioning of a cursor over the feature in the displayed image of the molecular array.

36. (New) The graphical user interface of claim 27, wherein each of said distinct graphical objects is distinct from all others of said distinct graphical objects in terms of at least one of shape and color.

37. (New) The method of claim 15, wherein said superimposing distinct graphical objects comprises superimposing distinct graphical objects to represent at least two of: a position of a feature within the image of the molecular array, a statistically valid feature, a statistically invalid feature, an outlier feature, a statistically valid background region around a feature, and an outlier background region.